

Date: Tue, 9 Aug 94 04:30:18 PDT
From: Ham-Digital Mailing List and Newsgroup <ham-digital@ucsd.edu>
Errors-To: Ham-Digital-Errors@UCSD.Edu
Reply-To: Ham-Digital@UCSD.Edu
Precedence: Bulk
Subject: Ham-Digital Digest V94 #265
To: Ham-Digital

Ham-Digital Digest Tue, 9 Aug 94 Volume 94 : Issue 265

Today's Topics:

900 MHz spread spectrum systems (2 msgs)
 Amiga, baycom and amicom
Best Modulation Scheme for 9600 Baud
 Help w/Heathkit TNC 4040
 Help with info
 Need NOS for Windows
Packeting with a 2m HT (2 msgs)
 TRS-80 Model 100 for Packet

Send Replies or notes for publication to: <Ham-Digital@UCSD.Edu>
Send subscription requests to: <Ham-Digital-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Digital Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-digital".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 8 Aug 1994 19:01:41 GMT
From: ihnp4.ucsd.edu!news.cerf.net!mvp.saic.com!MathWorks.Com!news.duke.edu!news-
feed-1.peachnet.edu!gatech!ncar!newshost.lanl.gov!beta.lanl.gov!
wolf@network.ucsd.edu
Subject: 900 MHz spread spectrum systems
To: ham-digital@ucsd.edu

lately i've become interested in the level of security actually provided by
the 900 mhz spread spectrum phones. for instance, could a hacker with a
pc and a smattering of outboard hardware have a good chance of decoding one's
900MHz phone calls?

does anyone have any details on the ss systems used in, say, the escort
phones? spreading sequence generator, modulation methods, synchronization
schemes, etc.? one of the fellows that i talked with at cincinnatti microwave

suggested that their phones choose a spreading sequence randomly whenever the phone gets used. is this true?

being a ham, i know that the fcc has allowed hams to use one of two linear feedback shift register schemes to generate the spreading sequence for direct sequence and frequency hopped systems. this makes it extremely easy to intercept a transmission. if the phones were this vulnerable then it would be difficult to make claims of security, eh?

also, since a lot of conversation time is "dead" time - mostly silence - does this provide the attacker a rather simple way to get the spreading code? i am assuming that the digitized voice level is mixed with the spreading code here - maybe someone who has more insight can comment on this method of attack.

if you've got the technical info, please pass it along. i'll post a summary.

david

```
=====
david r wolf - wolf@lanl.gov - ms p940, 87545 - 1+505-667-3813 - wb4vcq
=====
```

```
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Date: 9 Aug 94 08:19:00 GMT
From: ihnp4.ucsd.edu!agate!usenet.ins.cwru.edu!eff!news.duke.edu!MathWorks.Com!
news2.near.net!news.delphi.com!BIX.com!jdow@network.ucsd.edu
Subject: 900 MHz spread spectrum systems
To: ham-digital@ucsd.edu
```

stevalln@dorsai.org (Steve_Allen) writes:

```
> My understanding is that these phones use direct sequence spread spectrum.
>I was browsing thru a book on this the other day (idly, at the bookstore
>while looking for other stuff), and seem to recall reading that dsss is
>the easiest mode to sync to. I think you sort of slide your sequence back
>and forth over the signal, and when they're synced, the signal gets clear
>in an easily detectable way. (Can't remember the details of that, tho).
```

Direct sequences are easy to figure out. (These are single shift register generators.) If you know how long it is, say N stages, all you need is N+1 bits to figure out the code and the synch.
{^_^}

```
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Date: 9 Aug 94 00:07:56 GMT
From: news-mail-gateway@ucsd.edu
```

Subject: Amiga, baycom and amicom
To: ham-digital@ucsd.edu

| Greetings! Has anyone out in netland used the baycomm modem with an amiga?
| If so did you use it with amicom software or
| amiganos? Did you need to make any mods to the baycom? Any info is apprecia
| ted.

|
| dave
| n9uxu
|

Dave,

I have used amicom with the baycom style modem a little bit. I am using
amiganos now with a TNC in KISS mode... I do not know any way to use the
baycom modem with amiganos.

What is your email address?

Lowell Brunson (503) 681-0417
Rosenet: lbrunson@roland.co.jp
Internet: lbrunson@rodgers.rain.com (preferred)
lowell@teleport.com
Packet Radio: KC7DX@K7IQI.OR.USA.NA

Date: Mon, 8 Aug 1994 08:17:07 GMT
From: ihnp4.ucsd.edu!muninari.oz.au!quagga.ru.ac.za!ucthpx!uctvax.uct.ac.za!
thebox.ee.ctech.ac.za!Jakes@network.ucsd.edu
Subject: Best Modulation Scheme for 9600 Baud
To: ham-digital@ucsd.edu

Date sent: Fri, 5 Aug 94 09:05 EDT
From: gary@ke4zv.uucp (Gary Coffman)
To: jakes@norton.ctech.ac.za
Subject: Re: Best Modulation Scheme for 9600 Baud
Organization: Destructive Testing Systems
Copies to:

In article <jakes.8.000B7ADF@norton.ctech.ac.za> you write:

>
>Hi all!
>
>I just want to know which modulation scheme , eg. FSK ,GMSK..etc., to use in
>order to run 9600 baud or higher data rates in a 12,5kHz channel spacing.

FSK won't fit, but MSK can. The MSK scheme used in the WA4DSY RF modem, aka GRAPES modem, occupies 1.2 Hz per baud. That would fit a 9600 baud signal in 11.52 kHz at the 26 db down points. See the ARRL 6th Computer Networking Conference Proceedings for a paper on the design.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

Date: 5 Aug 1994 00:14:39 GMT
From: ihnp4.ucsd.edu!news.cerf.net!gopher.sdsc.edu!nic-nac.CSU.net!
channel.ecst.csuchico.edu!brad@network.ucsd.edu
Subject: Help w/Heathkit TNC 4040
To: ham-digital@ucsd.edu

That leads up to my plea or question for you whom know out there. I would like to know where I can find information on how to hook this unit up to a RS232 serial port 1 or 2 on my computer. I also need to know where I hook the radio PLL, PLL audio and rec audio, and maybe even the ground. Also which Jack I use in the back of the unit to hook the computer and the radio. I also need to know if it will operate Kiss mode or Host mode, Host mode is preferred(?) I need a copy of the commands which the unit will accept and what the meaning of the commands are.

If all else fails I would like to know where and if an instruction manuel is available. If someone out there happens to have a manuel and would copy it for me I would be more than happy to pay for the copy cost and shipping.....Thank you much in advanced...73's

Brad

brad@ecst.csuchico.edu

Date: Sat, 6 Aug 1994 06:54:32 GMT
From: agate!howland.reston.ans.net!math.ohio-state.edu!uwm.edu!news.sol.net!
jakesys!mike@ames.arpa
Subject: Help with info
To: ham-digital@ucsd.edu

Can anyone steer me into info on how to get started with packet radio with a 486 clone?

Date: Sun, 7 Aug 1994 07:18:17 +0000
From: ihnp4.ucsd.edu!ucsnews!sol.ctr.columbia.edu!howland.reston.ans.net!swrinde!pipex!demon!isis.demon.co.uk!ian@network.ucsd.edu
Subject: Need NOS for Windows
To: ham-digital@ucsd.edu

In article <31ru4r\$gnd@search01.news.aol.com>
tome206990@aol.com "TomE206990" writes:

> I had problems on my 386 running PA0GRI or Jnos under windows. The system
> would work for about 2 days of continuous operation and then NOS would
> cause a GPF fault in windows. Sometimes it would run longer...sometimes
> shorter. The problem was with the fact that both NOS and Windows were
> trying to independantly manage the computers memory. For ocasional usage
> I suppose this wouldnt be a problem. but if you intend to keep your
> station up 24hours/day I would not recomend it! Perhaps Novell dos 7, with
> multitasking would solve the problem? Since I added the 486 I have had no
> need to worry about it...Nos runs fine under dos and I do my serious work
> on the other machine.

Forget Novel DOS 7 - it has yet to aquire the ability to multitask comms properly.

--

| Ian Smith | "The Moving Finger writes;
| ian@isis.demon.co.uk | and, having writ, Moves on."

Date: 8 Aug 94 14:28:54 GMT
From: news.delphi.com!BIX.com!lbsisk@uunet.uu.net
Subject: Packeting with a 2m HT
To: ham-digital@ucsd.edu

finjws@gsusgi2.gsu.edu (Jerry W. Simpson) writes:

> Hi,
> I read sometime ago that due to the proliferation of digipeaters,one could
> use a 2m HT for packet radio.Are there HT's out there that have ports for
> TNC?or does one have to use an adapter or something?
> I also need a manual that describes the installation of a repeater.Please
> send all responses to my email address:finjws@gsusgi2.gsu.edu.Thanks in advance.

HT's are indeed usable with packet. If you check the manual for your TNC, it may well describe the cable needed to connect to a particular HT. Basically, you use the mike input for transmit audio, and the earphone jack for receive audio. The actual hookup varies, because some HT's use a three-pin plug for transmit (Audio, ground, and push-to-talk) while others use a two-pin plug with the PTT being a DC ground and the audio isolated through a capacitor.

As to your second question, you don't specify what KIND of repeater you mean.

- Lindy Sisk lbsisk@bix.com AK5N

Date: 8 Aug 1994 09:40:03 -0400
From: ihnp4.ucsd.edu!news.acns.nwu.edu!math.ohio-state.edu!howland.reston.ans.net!gatech!panther.Gsu.EDU!gsusgi2.gsu.edu!not-for-mail@network.ucsd.edu
Subject: Packeting with a 2m HT
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73 de KE4GXJ

--

Jerry W. Simpson, KE4GXJ finjws@gsusgi2.gsu.edu Compuserve 74640,3230
(404) 651-2392 (voice) (404) 651-2403 (fax)
Georgia State University, 860 Franklin Road 12, Marietta, GA 30067

Date: 8 Aug 94 22:30:31 GMT
From: news-mail-gateway@ucsd.edu
Subject: TRS-80 Model 100 for Packet
To: ham-digital@ucsd.edu

> NE|In the past I've seen the TRS-80 Model 100 used as a terminal for packet,
> NE|and I'm curious about the software/code to do this. I think that the
> NE|only language that this machine understands is BASIC, so where to find
> NE|source code might be indicated. (Or was there a chip that handled this?)
>
> I have a 100 and have yet to use it for packet... but since it has
> the terminal software already built in, that is all you should need.

I have used the built in firmware terminal program for packet in the Model 100's extensively and for a basic portable packet system the Model 100 performs beautifully.

Jim - N4WFP

End of Ham-Digital Digest V94 #265
